REMARKS

Claims 1-27 have been pending in the Application, all of which have been rejected. The Examiner is respectfully requested to reconsider and withdraw the rejection(s) and objection(s) in view of the amendments and remarks contained herein. No new matter was added, and the amendments are supported by the originally submitted specification, drawings and claims.

Figure 8 was canceled.

The body of the specification was amended to correct grammatical informalities. No new matter was added.

Claims 1 and 14 were amended to correct grammatical informalities, In particular, in claim 1, line 5 "an" changed to -- a first --, and in claim 14, line 2, "a" first occurrence, changed to – the -- first occurrence.

Claims 1, 2, 16 and 22 were amended to re-emphasize the claimed invention.

Claims 3 and 23 were canceled.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 1-27 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable. The aforementioned rejections are respectfully traversed. The following is a summary of the rejections.

Summary of § 103 Rejections

The Examiner has rejected claims 1, 10, 14, 16 and 19-21 under 35 U.S.C. § 103(a) as allegedly unpatentable over Katsumata et al. (U.S. Patent No. 5,171,938) in view of Wessels et al. (U.S. Patent No. 5,614,319) and Harada (U.S. Patent No. 5,118,905). The Examiner asserts that it would have been obvious to one skilled in the art to provide the insulation of Katsumata et al. (alleged primary reference) with a thickness of less than 0.15 mm as taught by Wessels et al.

to provide a flexibility for the cable. In addition, the Examiner asserts that it would have been obvious to use a ribbon-shaped conductor which is formed by pressing a round wire for the ribbon-shaped conductor of Katsumata since a ribbon-shaped conductor formed from pressing a round wire would provide smooth corners as taught by Harada. Furthermore, the Examiner also states that it would have been obvious to anneal the ribbon-shaped conductor, after pressing, in the modified Katsumata cable to ease the step of helically winding the conductor around the insulation.

The claimed invention is patentably distinct from Katsumata. The cable structure in Kasumata is different from the claimed invention.

Cable structure:

(1) Katsumata et al. discloses a medium sized coaxial cable combined with a conductor and an electrically conductive resin layer for shielding from an outer electromagnetic field.

(2) On the other hand, the present invention is directed to a smaller sized coaxial cable combined with a conductor and a non-electrically conductive resin for preventing noises caused by status electricity during active operation (current flowing).

Generally, the static electricity is generated by rubbing an insulation body with an outer conductor (friction). For preventing such static electricity, it is necessary for the insulation body to have the strongest possible contact with the outer conductor. However, since such strong contact between the insulation body and the outer conductor is not easily achieved, an electrically conductive resin layer has been extruded or a tape made of electrically conductive resin has been wound around the insulation body in order to be grounded, and then generate static electricity in the conventional products. Thus, the electrically conductive resin has been an essential material for this purpose. This is the structure that is disclosed in Katsumata.

On the other hand, the present invention is directed to achieving prevention of static electricity without using expensive electrically conductive resin simply by winding a tape shaped conductor to the strongest possible extent as an outer conductor. In the claimed invention, the ribbon-shaped conductor is helically (spirally) wrapped around the non-electrically conductive insulation layer using a tension of at least 30% of the tensile strength of the ribbon-shaped conductor. As a short winding pitch is also needed to achieve the invention, an angle of the outer conductor to an axis of the cable is 45 degrees or more. The short-pitched outer conductor also improves the mechanical strength of the cable.

Because the ribbon-shaped conductor(comprising the outer conductor) of the present invention with the tension dependent helical wrapping is so structured, the area of the contact face between the ribbon-shaped conductor and the insulation layer is sufficiently large to increase friction therebetween and, hence impedes the sliding movement of the ribbon-shaped conductor and the insulation layer along each other, thereby suppressing the occurrence of electrostatic noise (see the specification, page 5, paragraph 1). This is an important difference with respect to Katsumata.

Independent claims 1, 2, 16 and 22 were amended to re-emphasize the tensile strength requirement of the helical winding of the ribbon-shaped conductor around the non-electrically conductive insulation layer. Applicants assert that Katsumata does not teach or suggest, but, teaches away from the aforementioned cable structure as described in independent claims 1, 2, 16 and 22. Therefore, Katsumata alone does not render the independent claims 1, 2, 16 and 22 obvious.

Wessels describes an electrical cable with an insulation layer comprising a mixture of a polyolefin, such as polyethylene or polypropylene, and a partially fluorinated copolymer such as

ethylenechlorotrifluoroethylene. This mixture has electrical characteristics such as dielectric constant factors. The mixture is specifically structured to allegedly improve both mechanical and electrical properties over insulations consisting of 100% polyolefin or fluorinated copolymer such as in the claimed invention. This is a difference from the non-electrically conductive insulation resin layer in the claimed invention. There is no motivation or suggestion to combine the teachings of Katsumata and Wessels to disclose the features of the claimed invention. In fact, quite the contrary is desired.

Harada discloses a coaxial cable employing a plain stitch wire tube formed by braiding or interknitting a plurality of flattened individual solid metal conductors. In Harada, an insulator is formed from a dielectric material which covers the central conductor. Nowhere does Harada disclose the use of a non-electrically conductive resin as the insulation layer in the claimed cable structure. Hence, Harada discloses different features than what is described in Katsumata. Harada simply does not remedy the deficiencies of Katsumata and/or Wessels. There is no suggestion or motivation to combine the teachings of Wessel with the features of Katsumata and Wessels to disclose the claimed invention. Therefore, the asserted rejection over the alleged combination of Katsumata, Wessels and Harada is overcome.

Claims 2, 3, 12, 15, 22, 23 and 25-27 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Katsumata et al.(previous cite) in view of Wessels et al.(previous cite), Harada (previous cite) and Mori (U.S. Patent No. 4,638,114). The Examiner asserts that it would have been obvious to wrap the outer conductor of Katsumata et al. with an angle 45° or more with respect to the axis of the wire as taught by Mori to provide a desired capacitance for the cable (regarding claims 2 and 22). In addition, with regard to claims 3 and 23, the Examiner asserts that it would have been obvious to choose suitable tension for the outer conductor of Katsumata

et al. to meet the specific use of the resulting cable since it is allegedly taught by Mori that the capacitance of the cable depends upon the tension and the angle of the wrapped conductor. The aforementioned combination will not remedy the deficiencies of Katsumata with respect to rejected claims 2, 3, 12, 15, 22, 23 and 25-27.

Mori describes a shielded electric wire having an electric conductor, a high expansion insulating layer provided on the electric conductor, a rigid skin layer on the insulating layer, and a closed shield layer on the skin layer where the winding angle, 80°-85°, is measured from the normal to the longitudinal axis of the wire. This is contrary to the practice disclosed in the claimed invention where the wrapping angle of the ribbon-shaped conductor with respect to an axis of the coaxial element is 45 degrees or more (see specification, page 9, paragraph 1 and Fig. 2(A)(2)). In addition, Mori does not disclose short pitched cables as disclosed in the claimed invention. Therefore, Mori discloses different features than what is described in independent claims 2 and 22 and the dependent claims thereon. There is no suggestion or motivation to make the alleged combination of Katsumata, Wessels, Harada and Mori to remedy the deficiencies of Katsumata (the alleged base patent). Therefore, as stated above, and in view of the differences cited in Mori, the asserted rejection over the alleged combination is overcome.

The Examiner has rejected claims 4, 6 and 17 under 35 U.S.C. § 103(a) as allegedly unpatentable over Katsumata et al.(previous cite) in view of Wessels et al.(previous cite) and Harada (previous cite) as applied to claim 1 above, and further in view of Sass (U.S. Patent No. 4,552,989). The Examiner asserts that it would have been obvious to use a plurality of the modified coaxial cables of Katsumata et al. to form a multi-coaxial cable as allegedly taught by Sass for multiple transmitting purposes. The alleged combination of Sass with the previously cited art is incorrect.

Sass describes a multi-conductor cable including a plurality of miniature coaxial conductor pairs, dielectric material, surrounded by a wrapping of dielectric tape; an outer conductor of multiple strands of wire is helically laid about the dielectric tape wrapping. Sass describes a dielectric system where a tubular layer of solid dielectric material selected from polymeric fluorocarbon polyethylene mixtures surround the inner conductor. Sass further employs a wrapping of dielectric tape material to surround the tubular layer. This structure is contrary to that disclosed in the claimed invention where a non-electrically conductive insulation layer is employed. Therefore, the features disclosed in Sass are different from the claimed invention. There is no motivation or teaching to combine Sass with Katsumata, Wessels and Harada to remedy the deficiencies of Katsumata. Therefore, in view of the arguments presented for claim 1 above and the differences noted in Sass, the asserted rejection over the alleged combination is overcome.

Claims 5, 7 and 18 were rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Katsumata et al. (previous cite) in view of Wessels et al.(previous cite), Harada (previous cite) and Sass (previous cite) as applied to claims 4 and 17 above, and further in view of Ijff et al. (U.S. Patent No. 4,358,636). It is the Examiner's belief that it would have been obvious to one skilled in the art to contact the outer conductors of the coaxial cables in the modified Katsumata et al. cable together so that optimum signal transmission was realized as allegedly taught by Ijff et al. Furthermore, the Examiner states that it would have been obvious to use the modified cable of Katsumata et al. at a position where the cables are subjected to bending since the modified cable of Katsumata et al. is flexible.

Ijff describes an electrical connecting cable having a central coaxial unit around whose outer conductor a layer of conducting wire is placed; seven coaxial units are wound around the

central unit, the whole being surrounded by a sheath having an outer cover of insulating material. In Ijff, a dielectric surrounds the central conductor of each coaxial unit wound around the central coaxial unit. As stated above, the claimed invention, even when a multi core conductor is used, employs a non-electrically conductive resin as an insulation layer surrounding each central core. Ijff employs a different structure from the claimed invention. There is no suggestion or motivation to support the combination of Ijff with Katsumata, Wessels, Harada and Sass to remedy the deficiencies of Katsumata. In view of the above, and the noted differences in Ijff, the asserted rejection over the aforementioned alleged combination is overcome.

Claim 8 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Katsumata et al.(previous cite) in view of Wessels et al. (previous cite) and Harada (previous cite) as applied to claim 1 above, and further in view of Martin (U.S. Patent No. 3,334,177). In particular, the Examiner asserts that it would have been obvious to modify the outer conductor of Katsumata such that the spiral or the helical adjacent wrappings of the outer conductor butt against one another as taught by Martin to improve the shielding for the cable. The alleged combination is not supported by the cited art.

Martin describes an electrical cord structure in which a helical serving of tinsel ribbon is used as a shield and conductor in place of the woven braided or served wire shield structure. Nowhere does Martin disclose or refer to a non-electrically conductive insulation layer as that employed in the claimed invention. This is a difference in Martin. Claim 8 is dependent from independent claim 1 of the claimed invention. Therefore, for the same arguments as previously presented for claim 1 above, and in view of the difference noted in Martin, the combination of Martin with Katsumata, Wessels and Harada does not disclose the claimed invention. There is no

suggestion or motivation promote the alleged combination. Therefore, the asserted rejection over the alleged combination is overcome.

The Examiner has rejected claim 9 under 35 U.S.C. § 103(a) as allegedly unpatentable over Katsumata et al. (previous cite) in view of Wessels et al. (previous cite), Harada (previous cite) and Mori (previous cite) as applied to claim 2 above, and further in view of Martin (previous cite). It is the Examiner's belief, that it would have been obvious to one skilled in the art to modify the outer conductor of Katsumata such that the spiral or the helical adjacent wrappings of the outer conductor butt against one another as taught by Martin to improve the shielding effect for the cable. Claim 9 is dependent from claim 2 which as been previously discussed. Therefore, the asserted rejection over this alleged combination, as discussed for independent claim 2 above, is overcome.

Claim 11 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Katsumata et al. (previous cite) in view of Wessels et al. (previous cite) and Harada (previous cite) as applied to claim 1 above, and further in view of Peterson (U.S. Patent No. 5,354,954). The Examiner asserts that it would have been obvious that in the case where a plurality of ribbon-shaped conductors are used in the Katsumata cable, to provide the two conductors in the same direction and to provide the second conductor overlapping the first conductor as taught by Peterson.

Peterson describes a multiple conductor electric cable having a plurality of conductors, each formed of a multi-filament tensile core of unbonded aramid fibers. In Peterson, the conductors have at least a pair of tinsel conductor ribbons spirally wrapped in the same direction about the tensile core thus forming a spatial orientation of alternating directions when juxtaposed to each other. Peterson lacks a non-electrically conductive resin layer wrapped around and

juxtaposed to the central core. Therefore, the structure in Peterson differs from that in the claimed invention. Claim 11 is dependent from independent claim 1 of the claimed invention which has been previously discussed above. There is no motivation or suggestion to combine the contradicting structure disclosed in Peterson with Katsumata, Wessels and Harada to render the claimed invention obvious. In view of the aforementioned, the asserted rejection over the alleged combination is overcome.

Claim 13 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Katsumata et al. (previous cite) in view of Wessels et al.(previous cite), Harada (previous cite) and Mori (previous cite) as applied to claim 2 above, and further in view of Peterson (previous cite). The Examiner states that it would have been obvious that in the case a plurality of ribbon-shaped conductors are used in the Katsumata cable, to provide the two conductors in the same direction and to provide the second conductor overlapping the first conductor as taught by Peterson. Claim 13 is dependent from independent claim 2 which has been discussed above. In view of the arguments previously presented for claim 2, the asserted rejection over the herein alleged combination is overcome.

Claim 24 was rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over Katsumata et al. (previous cite) in view of Wessels et al. (previous cite), Harada (previous cite) and Mori (previous cite) as applied to claim 2 above, and further in view of Sass (previous cite). It is the Examiner's belief that it would have been obvious to one skilled in the art to use a plurality of the modified coaxial cables of Katsumata et al. to form a multi-coaxial cable as taught by Sass for multiple transmitting purposes. Claim 24 depends from independent claim 22 which has been discussed above. In view of the arguments previously presented for claim 22, the asserted rejection over the herein alleged combination is overcome.

Allegedly combining Katsumata (alleged primary reference) with the remaining alleged secondary references does not render the claimed invention prima facie obvious.

None of the cited documents, as secondary references, remedy the deficiencies of Katsumata with respect to claims 1, 2, 16 and 22. The secondary art cited discloses different features from what is described in these claims. In addition, there is no motivation for one skilled in the art to combine the teachings of Katsumata and the secondary art cited in any way that would render the claimed invention prima facie obvious. Therefore, the features of the presently claimed invention are not made obvious singly and/or in any combination of the alleged references. Independent claims 1, 2, 16 and 22 and their dependent claims thereon, are in condition for allowance.

* * * * *

It is believed that all of the stated grounds of objection and rejection have been properly traversed. Applicant therefore respectfully requests that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present Application is in condition for allowance. Thus, prompt and favorable consideration of this Amendment is respectfully requested.

If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned.

Please charge any fees which may be necessary with respect to this filing to Deposit Account No. 02-4300.

Respectfully submitted,

SMITH, GAMBRELL & RUSSELL, LLP

By: 32934

Robert G. Weilacher, Reg. No. 20,531
1850 M Street, N.W., Suite 800
Washington, D.C. 20036
Telephone: (202) 263-4300
Fax: (202) 263-4329

Date: October 21, 2002

MARKED UP VERSION OF CHANGES MADE

IN THE SPECIFICATION:

Page 6, last paragraph bridging pages 6 and 7:

Further, the coaxial element wire is constructed by using as the outer conductor a ribbon-shaped conductor obtained by pressing and flattening a copper or copper alloy round wire and helically wrapping the ribbon-shaped conductor around the insulation layer. Figure 1 is a perspective view schematically showing a single-core coaxial cable employing a typical coaxial element wire of the present invention. Referring to FIG. 1, reference numeral 1 denotes a center conductor of copper, copper alloy, or the like, 2 denotes an insulation layer made of PFA, polyester, polyimide film, or the like, 3 denotes a ribbon-shaped conductor as an outer conductor [formed of] [a ribbon-shaped conductor] whose cross-section is virtually a rectangle having its four corners smoothed, and 4 is an outer jacket. The ribbon-shaped conductor 3 can be produced by such a method as chamfering four corners of a rectangular conductor. It can also be manufactured by pressing and flattening a copper or copper alloy round wire, which is advantageous in terms of production cost. The ribbon-shaped conductor is helically wrapped around the insulation layer 2 to provide the outer conductor [3]. In Fig. 1, the combination of the center conductor 1, insulation layer 2, and outer conductor 3 is labeled with reference number 5.

Page 7, first full paragraph:

(1) Thickness of the insulation layer: Since the setting position or angle of electronic apparatuses such as notebook computers and sensors for medical purposes are manually changed, there are increasing demands for further downsized and light weight apparatuses. Hence, narrower coaxial cables are being demanded. When a coaxial cable is deformed by rotation or bending of a portion of a device in which it is disposed, strain is imposed on the

coaxial cable, especially on its outer conductor [3], and such strain becomes greater, accompanied by an increase in produced noises, with the increase of the outer diameter. Therefore, the insulation layer 2 and the coaxial element wire constituting the coaxial cable of the invention are required to have a thickness as thin as 0.15 mm or less. While it is preferred that the insulation layer 2 thickness be as small as possible, since it is subjected to deformation by repeated bending or torsion during the service period, it is desired that it be given a thickness of, for example, 0.3 mm or more, which is considered to be the minimum value when mechanical strength and flexibility are taken into account.

Page 8, first full paragraph:

(2) Outer conductor: The ribbon-shaped conductor 3, which is formed by pressing and flattening a round wire made of a metal, such as copper, copper alloy, or the like, is helically wrapped around the insulation layer 2 to form the outer conductor [3].

Page 8, second paragraph:

Since such a ribbon-shaped conductor 3 is obtained by pressing a round wire, the cross section thereof has a smooth form at the four corners, and takes on virtually a rectangular form not having any acute edge all along the circumference. The outer conductor [3] is constructed by wrapping the ribbon-shaped conductor <u>3</u> around the insulation layer 2 with one long side of the virtually rectangular form facing the insulation layer 2. Because the ribbon-shaped conductor 3 has such a form, it can be provided free from an acute edge as was produced in the slit tape in the conventional art and, therefore, injury to the insulation layer 2 or localization of voltage rarely occurs so that a stabilized insulating withstand-voltage characteristic can be obtained. Further, since a round wire made of copper or copper alloy is pressed and flattened to be used as the ribbon-shaped conductor 3 without annealing, a merit can be obtained such that the ribbon-

shaped conductor 3 can be wrapped up so as not to become loose, without the need for braiding as was practiced in the method of the conventional art. When wrapping the ribbon-shaped conductor 3, it must be kept under a tension not impairing the characteristic of the insulation layer 2, while enabling the wrapped up ribbon-shaped conductor **[3]** to constantly fasten the insulation layer 2, and under such a tension that will not cause the coaxial element wire or the coaxial cable to be damaged when the same is bent or twisted. It is preferred that the tension be not smaller than 30% and not greater than 80% of the tensile strength of the ribbon-shaped conductor 3. Further, a layer obtained by depositing a metal on a thin tape may be disposed under the outer conductor **[3]**. Then, both an improvement in the shielding effect and an increase in the insulating withstand-voltage of the insulation layer 2 can be attained.

Page 9, first paragraph:

The wrapping angle (ϕ) of the ribbon-shaped conductor 3 is preferably 45 degrees or more for providing flexibility. (The wrapping angle ϕ is illustrated in Fig. 2(A)(2).) While it is more preferably 60 degrees or more, if it is increased close to 90 degrees, the productivity is greatly decreased and it is undesirable. Therefore, the maximum limit for the wrapping angle ϕ is approximately 80 degrees. As to the size of the outer conductor **[3]**, it is desired that the thickness be 0.03 mm or less in order to reduce the outer diameter of the coaxial element wire and the coaxial cable and, in view of the mechanical strength, it is desired that it be not smaller than 0.01 mm. From the viewpoint of maintaining the characteristics which the outer conductor **[3]** should have, it is better for the ribbon-shaped conductor 3 to have a large width, preferably 0.1 mm or more. However, from the point of view of the operability of the wrapping operation and the cost of production, one having a width of 0.3 mm or less is preferable because that small of a width is economical in material costs and allows the wrapping work to be made free of

wrinkle formation. Especially from the point of view of electrical characteristics, mechanical characteristics, and workability, a tape-shaped conductor 0.025 mm thick and 0.20 mm wide manufactured by pressing a round wire of 0.08 mm in outer diameter or a tape-shaped conductor 0.012 mm thick and 0.18 mm wide manufactured by pressing a round wire of 0.05 mm in outer diameter have excellent characteristics as the outer conductor [3].

Page 9, second paragraph bridging pages 9 and 10:

(3) Multicore cable: Especially in the case of the multicore cable of the present invention, regardless of whether manufactured by having coaxial element wires assembled and provided with a common jacket, by having single-core coaxial cables assembled and provided with a common jacket, or by having coaxial element wires having outer conductors combined and in contact with one another without individual jackets, there is no danger of the insulation layer 2 being injured by the outer conductor [3] even if the coaxial element wires are subjected to a force applied from the side, i.e., a lateral pressure, when they are twisted for assembling work or the like, since the outer conductor [3] of the coaxial element wires has a smooth surface free from an acute edge along its circumference as a result of manufacture from a round wire by pressing.

Page 10, third full paragraph:

For use as the outer conductor [3], a tin-plated round wire 40 of a copper alloy of 0.05 mm in outer diameter having a cross section as shown in FIG. 5(A) was pressed and thereby a long ribbon-shaped conductor 42 0.012 mm thick and 0.18 mm wide having a cross section as shown in FIG. 5(B) was manufactured. As the insulation layer 2, PFA (tetrafluoroethylene-perfluoroalkylvinylether copolymer) resin was extruded to cover the periphery of a center conductor 1 of 0.09 mm in outer diameter (seven tin-plated copper-alloy

wires of 30 μm in outer diameter being stranded) by a known extruding and covering method so that a circular profile of 0.23 mm in outer diameter is formed. Then, the above described tape-shaped conductor [3] (42) was helically wrapped around the same, so as to form an angle ϕ of 68 degrees with respect to the axis of the coaxial element wire, by open wrapping as shown in FIGS. 2(A)(1) and 2(A)(2), spaced apart at a pitch of 0.29 mm, under a tension of 60 gf per piece. In this manner, a coaxial element wire was manufactured.

Page 11, second full paragraph:

Withstand voltage test: Using a coaxial element wire of 300 m length, a DC voltage of 1000 V was applied between the center conductor 1 and the outer conductor [3] for one minute, and the occurrence of any dielectric breakdown was checked for. As a result, there was no fault observed, such as to break down the insulation layer 2, with respect to the withstand voltage. Thus, it has been confirmed that the coaxial element wire has good characteristics as a coaxial cable.

Page 12, last paragraph bridging pages 12 and 13:

Then, as shown in FIG. 3(A), 10 pieces of coaxial element wires, each including a central conductor 1, an insulating layer 2, and an outer conductor [3] according to the invention, were arranged in parallel, and they were wrapped up by an adhesive-coated polyester tape, as a jacket 6, so as to be formed into a flat type multicore cable. Further, 30 pieces of said single-core coaxial wires were twisted together and provided with a common jacket on the outside. Thereby, a multicore cable being small in diameter while having flexibility and mechanical durability required of a multicore cable was obtained. Also, excellent insulating and other characteristics have been confirmed with the multicore cables thus obtained.

Page 13, first full paragraph:

Similarly, as shown in FIG. 3(B), 10 pieces of coaxial element wires, each including a central conductor 1, an insulating layer 2, and an outer conductor [3] according to the invention, might be arranged in parallel, with outer conductors of the wires in contact with each other, and then wrapped up by an adhesive-coated polyester tape, as a jacket 6, so as to be formed into a flat type multicore cable. In this way, a multicore cable being small in diameter while having flexibility and mechanical durability required of a multicore cable was obtained, and even if each of the outer conductors is small, the resistance of the outer conductors does not become large overall. Also, excellent insulating and other characteristics can be achieved with the multicore cables thus obtained.

IN THE CLAIMS:

1. (Amended) A coaxial element wire, comprising:

a center conductor,

[an] a non-electrically conductive insulation layer, provided around the center conductor, having a thickness of

0.15 mm or less, and

[an] a first outer, ribbon-shaped conductor, obtained by pressing a copper or copper alloy round wire into a flat form, without annealing after pressing, the ribbon-shaped conductor being spirally wrapped, under a tension of at least 30% of the tensile strength of the ribbon-shaped conductor, around said insulation layer.

2. (Amended) A coaxial element wire, comprising:

a center conductor,

[an] a non-electrically conductive insulation layer, disposed around said center conductor and in contact therewith, having a thickness of 0.03 mm or more and no greater than 0.15 mm at a portion of the insulation layer where the thickness is smallest, and

an outer conductor, made by:

pressing a copper or copper alloy round wire into a flat form, without annealing after pressing, to thereby provide a ribbon-shaped conductor of a virtually rectangular cross-section with its four corners smoothed, and then

helically wrapping said ribbon-shaped conductor, under a tension of at least 30% of the tensile strength of said ribbon-shaped conductor, around said insulation layer with one long side thereof facing said insulation layer, wherein a wrapping angle of said ribbon-shaped conductor with respect to an axis of said coaxial element wire is 45 degrees or more.

14. (Amended) The coaxial wire element according to claim 1, wherein the outer conductor includes [a] the first ribbon-shaped conductor spirally wrapped in a first direction and a second ribbon-shaped conductor spirally wrapped in a second direction opposite the first direction.

16. (Amended) A method of making a coaxial element wire, comprising:

providing a center conductor;

providing [an] a non-electrically conductive insulation layer around the center conductor, wherein the insulation layer has a thickness of 0.15 mm or less;

providing an outer conductor formed by pressing a copper or copper alloy round wire into a flat form, without annealing after pressing, to thereby provide a ribbon-shaped conductor; and

spirally wrapping the ribbon-shaped conductor, under a tension of at least 30% of the tensile strength of the ribbon-shaped conductor, around the insulation layer.

22. (Amended) A method of making a coaxial element wire, comprising:

providing a center conductor;

providing [an] a non-electrically conductive insulation layer around the center conductor and in contact therewith, wherein a thickness of the insulation layer is 0.03 mm or more and not greater than 0.15 mm at a portion where the thickness is smallest;

providing an outer conductor formed by pressing a copper or copper alloy round wire into a flat form, without annealing after pressing, to thereby provide a ribbon-shaped conductor of a virtually rectangular cross-section with its four corners smoothed; and

helically wrapping one or a plurality of the ribbon-shaped conductors, under a tension of at least 30% of the tensile strength of the ribbon-shaped conductor, around the insulation layer with one long side thereof facing the insulation layer, wherein a wrapping angle of the ribbon-shaped conductor with respect to an axis of the coaxial element wire is 45 degrees or more.